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REMARKS

Claims 1-28 are presented for examination, Claims 1-28 are rejected, and an objection is asserted against Claims 3, 14, and 15. In response, Applicant's independent Claims 1, 8, and 25 have been amended, and Applicant's Claims 19-24 have been cancelled. Reconsideration is respectfully requested in view of the forgoing amendments and the following remarks. The following remarks are believed to be fully responsive to the Office Action dated March 17, 2006, and also render all currently pending claims at issue patentably distinct over the references of record.

I. Objection to Applicant's Claims 3, 14, and 15

In paragraph 1 of the Office Action, Claims 3 and 14 are objected on the ground that the term "substantially perpendicular" is unclear in range and scope. Paragraph 2 of the Office Action asserts a similar objection to Claim 15 on the ground that the term "substantially parallel" is likewise unclear in range and scope.

MPEP §2173.05(b) states that:

The fact that claim language, including terms of degree, may not be precise, does not automatically render the claim indefinite under 35 U.S.C. 112, second paragraph. *Seattle Box Co., v. Industrial Crating & Packing, Inc.*, 731 F.2d 818, 221 USPQ 568 (Fed. Cir. 1984). Acceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification...

When a term of degree is presented in a claim, first a determination is to be made as to whether the specification provides some standard for measuring that degree. If it does not, a determination is made as to whether one of ordinary skill in the art, in view of the prior art and the status of the art, would be nevertheless reasonably apprised of the scope of the invention.

With respect to Claims 3 and 14, Applicant notes that examples of "substantially perpendicular" are provided in Applicant's detailed description at paragraph 17, lines 14-19 and at paragraph 14, lines 25-31. Additionally, an example of "substantially perpendicular" is illustrated in Applicant's FIG. 2 (i.e., wheel 11 is pushed forward in a direction substantially perpendicular to axis 13 as indicated by arrow 24) and FIG. 3. With respect to Claim 15, Applicant notes that an example of "substantially parallel" is provided in Applicant's detailed description at paragraph 14, lines 52-54, and generally illustrated in FIGs. 1 - 3. Thus, Applicant's specification does provide standards for measuring the term "substantially" as

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recited in Claims 3, 14, and 15. However, even if Applicant's specification did not provide such standards, the range and scope of the limitation recited by Claims 3 and 14, and that recited by Claim 15, should still be considered reasonably clear to one skilled in the art.

The term "substantially" is often used in conjunction with another term to describe a particular characteristic of the claimed invention. It is a broad term. In *re Nehrenberg*, 280 F.2d 161, 126 USPQ 383 (CCPA 1960). The Federal Circuit has stated that "[c]laims need only 'reasonably apprise those skilled in the art' as to their scope to satisfy the definiteness requirements... In addition, the use of modifiers in the claim, like 'generally' and 'substantial,' does not by itself render the claims indefinite." *Energy Absorption Sys., Inc. v. Roadway Safety Servs., Inc.*, Civ. App. 96-1264 (Fed. Cir. July 3, 1997) (unpublished) (citing *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367 (Fed. Cir. 1986).

There are numerous examples of term "substantially" being held sufficiently definite by the CCPA and the Federal Circuit. Two relevant examples are provided below.

In *Verve, LLC v. Crane Cams, Inc.*, 311 F.3d 1116 (Fed. Cir. 2002), the Federal Circuit stated that:

Expressions such as "substantially" are used in patent documents when warranted by the nature of the invention, in order to accommodate the minor variations that may be appropriate to secure the invention. Such usage may well satisfy the charge to "particularly point out and distinctly claim" the invention, 35 U.S.C. §112, and indeed may be necessary in order to provide the inventor with the benefit of his invention. In *Andrew Corp. v. Gabriel Elecs. Inc.*, 847 F.2d 819, 821-22, 6 USPQ2d 2010, 2013 (Fed. Cir. 1988) the court explained that usages such as "substantially equal" and "closely approximate" may serve to describe the invention with precision appropriate to the technology and without intruding on the prior art. The court again explained in *Ecolab Inc. v. Envirochem, Inc.*, 264 F.3d 1358, 1367, 60 USPQ2d 1173, 1179 (Fed. Cir. 2001) that "like the term 'about,' the term 'substantially' is a descriptive term commonly used in patent claims to 'avoid a strict numerical boundary to the specified parameter,'" quoting *Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211, 1217, 36 USPQ2d 1225, 1229 (Fed. Cir. 1995).

It is well established that when the term "substantially" serves reasonably to describe the subject matter so that its scope would be understood by persons in the field of the invention, and to distinguish the claimed subject matter from the prior art, it is not indefinite.

Furthermore, in *Playtex Products, Inc. v. Procter & Gamble Company, et al.*, (Fed. Cir.; March 7, 2005), the Federal Circuit stated that:

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"The term 'substantial' is a meaningful modifier implying 'approximate,' rather than 'perfect.'" *Liquid Dynamics*, 355 F.3d at 1368. But the definition of "substantially flattened surfaces" adopted by the district court introduces a numerical tolerance to the flatness of the gripping area surfaces of the claimed applicator. That reading contradicts the recent precedent of this court, interpreting such terms of degree. In *Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1361 (Fed. Cir. 2003), we refused to impose a precise numeric constraint on the term "substantially uniform thickness," noting that the proper interpretation of this term was "of largely or approximately uniform thickness" unless something in the prosecution history imposed the "clear and unmistakable disclaimer" needed for narrowing beyond this plain-language interpretation. *Id.* Moreover, in *Anchor Wall Sys. v. Rockwood Retaining Walls, Inc.*, 340 F.3d 1298 (Fed. Cir. 2003), we held that "the phrase 'generally parallel' envisions some amount of deviation from exactly parallel," and that "words of approximation, such as 'generally' and 'substantially,' are descriptive terms 'commonly used in patent claims 'to avoid a strict numerical boundary to the specified parameter.'" *Id.* at 1311.

Applicant's Claims 3 and 14 recite a rotary switch actuatable by rotating a scroll wheel about an axis, and a linear switch actuatable by pressing the scroll wheel in a direction *substantially perpendicular* to the axis. In these Claims, the term "the axis" is clearly defined as an axis about which the scroll wheel may be rotated. The term "perpendicular" is also distinct; perpendicular is commonly defined as intersecting at or forming right angles. *The American Heritage Dictionary* (4th ed. 2001). The addition of word "substantially" does not subvert the basic meanings of these terms, but instead implies approximate rather than perfect to avoid a strict geometrical construction. As observed by the Federal Circuit in the *Energy Absorption* decision cited above, the utilization of the term "substantially" in this manner does not render a claim, which is otherwise definite, indefinite. Accordingly, Applicant respectfully submits that the term "substantially perpendicular" as recited in Applicant's Claims 3 and 14 is sufficiently clear in both range and scope.

Similarly, Applicant's Claim 15 specifically recites that the axis is substantially parallel to a radius of the steering wheel rim. The terms "the axis" and "a radius of the steering wheel rim" are both definite, and are not rendered indefinite by the addition of the word "substantially". As the Federal Circuit held of the phrase "generally parallel" in the above-cited *Anchor Wall* decision, Applicant's use of the phrase "substantially parallel" in Claim 15 should be deemed acceptable claim language that would be reasonably clear to one skilled in the art.

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In view of the above, Applicant respectfully submits that Claims 3, 14, and 15 are sufficiently definite to reasonably apprise one skilled in the art of the scope of the invention. Applicant therefore respectfully requests that Claims 3, 14, and 15 be allowed in their current form.

II. Summary of Rejection of Applicant's Claims 1-28 under 35 U.S.C. §103

Beginning on page 2 of the Office Action, Applicant's Claim 1 is rejected under 35 U.S.C. §103(a) as being unpatentable over Moffi et al. (U.S. Pub. No. 20030109290) in view of Umabayashi (U.S. Pat. No. 4,608,550).

Next, beginning on page 3 of the Office Action, Applicant's Claims 1-23 and 25-28 are rejected under 35 U.S.C. §103(a) as being unpatentable over Worrell et al. (U.S. Pub. No. 20050021190) in view of Moffi et al.

Lastly, beginning on page 8 of the Office Action, Applicant's Claim 24 is rejected under 35 U.S.C. §103(a) as being unpatentable over Worrell et al. in view of Moffi et al.

III. Response to Rejection of Claims 1-28 under 35 U.S.C. §103

Referring first to the rejection of Applicant's Claim 1 as being over Moffi et al. in view of Umabayashi, the Office Action states that Moffi teaches a motor vehicle system comprising: a rotary scroll wheel (116) coupled to a switch (120, 122) and mounted on a steering wheel rim (115) of a motor vehicle and configured to adjust a function of the motor vehicle. Moffi teaches the use of a system device (128); while not taught or disclosed as a controller, Moffi is understood to "pose a controller at monitor" the condition of said switches. Though recognizing that Moffi is silent to the use of the controller coupled at the switch and configured to receive a signal from the switch and to cause adjustment of the function in response to the signal, the Office Action maintains that Umabayashi teaches the use of a controller (80) coupled to a switches item (90) and configured to receive a signal from the switch and to cause adjustment of the function in response to the signal. The Office Action concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Moffi to include the use of a controller of Umabayashi to monitor the condition of the switches in order to affect the function indicated by the user through the switches.

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Applicant's independent Claim 1 has been amended to further recite that the rotary scroll wheel is disposed on an inner portion of the steering wheel rim. As is clearly shown in Applicant's FIGs. 2 and 3, disposing one or more scroll wheels in this manner permits a user to easily actuate (rotate and/or depress) a scroll wheel without removing his or her hand from the steering wheel. Applicant observes that neither et al. Moffi nor Umebayashi shows or describes disposing a scroll wheel, or any other user control, in this manner. Applicant, therefore, respectfully submits that Claim 1 is allowable as amended.

Beginning on page 3 of the Office Action, Applicant's Claims 1-23 and 25-28 are rejected under 35 U.S.C. §103(a) as being unpatentable over Worrell et al. in view of Moffi et al.

On page 3, the Office Action specifically rejects Applicant's independent Claims 1 and 8 stating that:

Worrell teaches a motor vehicle control system comprising: a plurality of rotary scroll wheels... and a plurality of switches..., each of the plurality of switches coupled to and actuable by one of the plurality of rotary scroll wheels..., and each of the plurality of rotary scroll wheels mounted on a steering wheel of the motor vehicle, at least on of the plurality of rotary scroll wheels mounted in an upper right hand quadrant... of the steering wheel and at least one of the plurality of rotary scroll wheels located in an upper left hand quadrant of the steering wheel. Worrell teaches the implementation of the device using a controller (paragraph 0117). Worrell does not teach the placement of a scroll switch on the rim of the steering wheel. Moffi teaches the placement of a scroll wheel (item 116) on the rim of the steering wheel. It would have been obvious to one of ordinary skill in the art at the time of the invention to place the scroll wheel on the rim of the steering wheel in order to increase the convenience and usability of the scroll wheel.

As stated previously, Applicant's independent Claim 1 has been amended to further recite that the rotary scroll wheel is disposed *on an inner portion* of the steering wheel rim. Similarly, Applicant's independent Claim 8 has been amended to recite that at least a first of a plurality of scroll wheels is mounted *on an inner portion of* an upper right hand quadrant of the steering wheel rim, and at least a second of the plurality of scroll wheels is mounted *on an inner portion of* an upper right hand quadrant of the steering wheel rim. Applicant observes that neither Worrell et al. nor Moffi et al. shows or describes disposing a scroll wheel, or any other

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user control, in this manner. Applicant, therefore, respectfully submits that independent Claims 1 and 8 are allowable as amended.

On page 4 of the Office Action, Claims 2 and 9 are rejected on the ground that Worrell teaches the use of a display unit (item 20) coupled to the control unit and configured to display an indication of the motor vehicle function.

Applicant's Claim 2 depends directly from independent Claim 1, and Applicant's Claim 9 depends directly from independent Claim 8. As stated above, Applicant's Claims 1 and 8 have been amended and are now believed allowable; consequently, Applicant's dependent Claims 2 and 9 are believed allowable therewith.

On page 4 of the Office Action, Claim 3 is rejected on the ground that Worrell teaches "the switch comprises a rotary switch actuatable Fig. 3 by rotating the scroll wheel about an axis and a linear switch (see Fig. 3 push in) actuatable by pressing the scroll wheel in a direction substantially perpendicular to the axis."

Applicant's Claim 3 depends directly from independent Claim 1, which has been amended. As Claim 1 is now believed allowable, Claim 3 is believed allowable therewith. In addition, Applicant notes that, while illustrating a rotary wheel (46) that may be rotated and/or depressed, Worrell's FIG. 3 does not illustrate a rotary electric switch or a linear electric switch coupled to the rotary wheel as described and shown in Applicant's application.

On page 4, the Office Action rejects Applicant's Claim 4 stating that:

While Worrell teaches the switch may be mounted in any location convenient to the operator and Moffi teaches the scroll switch may be placed on the rim of the steering wheel[.] It would have been obvious to one of ordinary skill in the art at the time of the invention to place the scroll switch on the rim of the steering wheel so as to align the axis of the linear switch and the scroll switch so they are substantially perpendicular.

Applicant's Claim 4 does not recite the placement of "the scroll switch on the rim of the steering wheel so as to align the axis of the linear switch and the scroll switch so they are substantially perpendicular" as the Office Action suggests. Instead, Applicant's Claim 4 recites the motor vehicle control system of claim 3 wherein the axis (i.e., the axis around which the

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scroll wheel may be rotated) is parallel to a radius of the steering wheel rim. Thus, Applicant's Claim 4 is explicitly directed to the disposition of the scroll wheel's rotational axis with respect to the steering wheel rim; Claim 4 is not directed to the respective positioning of the axes of the linear switch and the scroll switch. This notwithstanding, Applicant's Claim 4 depends indirectly from Applicant's independent Claim 1, which has been amended. As Claim 1 is now believed allowable, Claim 4 is believed allowable therewith.

On page 4 of the Office Action, Claims 5 and 18 are rejected on the ground that Worrell teaches that the rotary scroll wheel comprises a generally circular cross section having a crenulated periphery.

Applicant's Claim 5 depends directly from independent Claim 1, and Applicant's Claim 18 depends directly from independent Claim 8. As stated above, Applicant's Claims 1 and 8 have been amended and are now believed allowable; consequently, Applicant's dependent Claims 5 and 18 are believed allowable therewith.

On page 5, the Office Action rejects Claims 6 and 16 reasoning that Worrell teaches "the rotation of the switch is used to scroll through menus or functions to be controlled and feedback of said scrolling may be seen on the display as the scroll wheel is rotated through a number of degrees."

Applicant's Claims 6 and 16 recite that feedback is provided by the rotary switch (or switches) to which the rotary scroll wheel (or wheels) is coupled. Thus, Applicant's Claims 6 and 16 do not refer to visual feedback produced on a display as suggested by the Office Action. This notwithstanding, Applicant's Claim 6 depends indirectly from independent Claim 1, and Applicant's Claim 16 depends indirectly from independent Claim 8. As stated above, Applicant's Claims 1 and 8 have been amended and are now believed allowable; consequently, Applicant's dependent Claims 6 and 16 are believed allowable therewith.

On page 5 of the Office Action, Applicant's Claim 7 is rejected on the ground that Worrell as modified by Moffi teaches the remote pad is located on the rim of the steering wheel, and that it would have been obvious to one of ordinary skill in the art at the time of the

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invention to move to another location, which may be more convenient for the driver/user to increase usability.

Applicant's Claim 7 recites that the rotary scroll wheel can be positioned at a location on the steering wheel at the discretion of a motor vehicle operator. Stated differently, Applicant's Claim 7 specifies that the rotary scroll wheel may be moved to a desired position on the steering wheel by an operator. It is thus irrelevant whether it would have been obvious to one of ordinary skill to move Moffi's remote pad to another, more convenient location on the steering wheel as the Office Action states; this does not concern the driver's ability to move the rotary scroll wheel as recited by Claim 7. This notwithstanding, Applicant's Claim 7 depends directly from Applicant's independent Claim 1, which has been amended as described above. It is thus respectfully submitted that Applicant's Claim 7 is allowable with independent Claim 1.

On page 5, the Office Action rejects Applicant's Claim 10 stating that Worrell teaches the placement of a plurality of display units (not pictured see paragraph 0046), each coupled to the control unit and each responsive to a signal from a respective one of the plurality of switches to display an indication of a motor vehicle function.

Applicant's Claim 10 depends directly from Applicant's independent Claim 8. As independent Claim 8 has been amended and is now believed allowable, Applicant's Claim 10 is believed allowable therewith.

On page 5 of the Office Action, Claim 11 is rejected. In rejecting this Claim, the Office Action states that Worrell teaches the placement of a plurality of placements of the rotary scroll wheels to meet the convenience of the operator; i.e., front, back, middle, or side of the steering wheel.

Setting aside a discussion of which scroll switch steering wheel dispositions Worrell does and does not disclose, Applicant notes that Applicant's Claim 11 is not itself directed to the location of the rotary scroll wheels on the steering wheel. Instead, Claim 11 recites that each of the plurality of rotary scroll wheels can be positioned at a location on the steering wheel at the discretion of a motor vehicle operator. Thus, as does Claim 7 discussed above, Applicant's Claim 11 concerns the operator's ability to move the rotary scroll wheels. Regardless, Applicant's Claim 11 depends directly from Applicant's independent Claim 8. As

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Claim 8 has been amended and is now believed allowable, Claim 11 is believed allowable therewith.

On page 5, the Office Action rejects Applicant's Claims 12 and 13 stating that:

Worrell teaches the rotary switches which are used [to] actuate specific motor vehicle function and each of the plurality of rotary scroll wheels can be configured cause a specified motor vehicle function to react o a signal from an associated one of the plurality of rotary scroll wheels, see Fig 14-5 or 26 which shows menu diagrams vehicle functions which may be selected with the scroll wheel.

Applicant's Claims 12 and 13 each directly depend from Applicant's independent Claim 8, which has been amended as described above. Thus, Applicant's independent Claim 8, and therefore dependent Claims 12 and 13, are believed allowable.

On page 5 of the Office Action, Claim 14 is rejected on the ground that Worrell teaches the scroll wheels "contain rotary type switches, which are actuated by the rotation of the scroll wheel as well as linear push in type of switch, which is pushed in a direction perpendicular to the axis of rotation."

As stated previously, Worrell does describe and show a rotary wheel (46) that may be rotated and/or depressed; however, it does not appear that Worrell describes or shows a rotary electric switch or a linear electric switch coupled to the rotary wheel as described and shown in Applicant's application. This notwithstanding, Applicant's Claim 14 depends from Applicant's independent Claim 8 and is believed allowable therewith.

On page 6, the Office Action rejects Claim 15 stating that Worrell teaches the axis is substantially parallel to a radius of the steering wheel rim (see Fig. 7 for example).

Applicant notes that the rotary wheel (82) shown in FIG. 7 is not disposed on the steering wheel rim as recited by Claim 8 from which Claim 15 depends. This notwithstanding, Applicant's Claim 8 has been amended and is believed allowable, and Claim 15 is believed allowable therewith.

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On page 6 of the Office Action, Claim 17 is rejected on the ground that Worrell teaches "the linear switch provides similar feedback as the rotation of the scroll wheel, such as the operator tactile feedback of pressing the linear switch the display indicates the operator's selection."

The Applicant is unclear whether the Office Action states that Worrell teaches the provision of tactile feedback from the linear switch or visual feedback from a display. Applicant does note that Worrell briefly addresses tactile feedback provided by a haptics system within the rim of the steering wheel (see paragraph 0075). Applicant's Claim 17, however, recites feedback provided by the linear switch coupled to the rotary scroll wheel, which is not taught by the Worrell reference. This notwithstanding, Applicant's Claim 17 indirectly depends from Applicant's amended Claim 8 and is believed allowable therewith.

On page 6, the Office Action rejects Applicant's independent Claims 19 and 25 stating that:

Worrell teaches controlling the... motor vehicle having a plurality of

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this manner. Applicant, therefore, respectfully submits that independent Claim 25 is allowable as amended.

Applicant's independent Claim 19 has been cancelled along with Applicant's dependent Claims 20-24.

On page 7 of the Office Action, Claims 20, 27, and 28 are rejected on the ground that Worrell teaches the using the scroll switches to control the vehicles cruise control speed see paragraph 0115.

In paragraph 0115, Worrell states that "a user may prefer certain buttons for quick selection of components or subsystems of the vehicle (e.g., audio, radio, navigation, wipers, chronic control, communications, *cruise control*, signals etc.)." In contrast, Applicant's Claim 27 states that the control unit is configured to activate a cruise control system in response to rotation of a second one of the plurality of switches, and Applicant's Claim 28 states that the control unit is further configured to change the speed of the motor vehicle in response to the

PAGE 16/17 * RCVD AT 6/8/2006 2:03:11 PM [Eastern Daylight Time] * SVR:USPTO-EFXXRF-1/8 * DNIS:2738300 * CSID:313 665 4977 * DURATION (mm-ss):22-40

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Lastly, on page 8 of the Office Action, Claim 24 is rejected.

Applicant's Claim 24 has been cancelled.

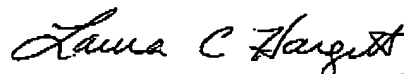
IV. Prior Art Made of Record but Not Relied Upon

Applicant has reviewed the references made of record but not relied upon and believe that these references taken singly or in combination do not form the basis of a valid rejection to the Claims.

V. Conclusion

In view of Applicant's forgoing amendments and remarks, it is respectfully submitted that the rejections set-forth in the Office Action dated March 17, 2006 have been overcome. Accordingly, Applicant respectfully submits that the application is now in condition for allowance, and such allowance is therefore earnestly requested. Should the Examiner have any questions or wish to further discuss this application, Applicant requests that the Examiner contact the Applicant's attorney at 313-665-4710. Please charge any fees that may be due to Deposit Account No. 07-0960.

Respectfully submitted,



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